FACT SHEET/STATEMENT OF BASIS
CHAMBERLAIN INVESTMENT COMPANY
PROVISIONAL MINOR INDUSTRIAL
NEW PERMIT NO. UT-0025739

FACILITY CONTACT

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FACILITY INFORMATION

The Chamberlain Investment Company (CIC) is a planned spa resort which may include a restaurant and greenhouses as well as grottos and swimming pools. The State Engineer's office has issued a non-consumptive water right to CIC. This water right cannot exceed 1.00 cubic feet per second (448.86 million gallons a day or 185.00 acre feet annually). There is one cold water well and two hot water wells that CIC will be able to obtain the mineral water from for the use of the spa. CIC has the ability to control the flow of both wells to adjust the temperature for the comfort of their guests. The plan is to have several pools and grottos at different temperatures with the first set of pools at about 105^{o} F (40.56^{o} C), the second series of pools and grottos with a temperature of about 80^{o} F (26.67^{o} C) and the temperature of the third pool and grottos will be about 60^{o} F (15.56^{o} C). The flow from the grottos and swimming pools will enter a concrete serpentine manmade creek to decrease the chlorine and increase the dissolved oxygen before the discharge water enters Salt Creek. The discharge point shall be known as 001, with STORET sampling number of 4901435. The spa resort location is to be directly across the street to the west from the address above, in Box Elder County, Utah, at Latitude N 41^{o} 39' 23.5", longitude, W 115^{o} 05' 20.5" NAD 83 Datum. It has a Standard Industrial Classification (SIC) code of 7999, for Amusement and Recreation Services, not elsewhere Classified.

RECEIVING WATERS

The discharge is to Salt Creek, thence to the Bear River. Salt Creek is classified as:

Class 2B -- Protected for secondary contact recreation such as boating, wading, or similar uses.

Class 3B -- Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.

Class 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, or 3C, including the necessary aquatic organisms in their food chain.

The head waters of Salt Creek are composed of two naturally occurring springs about 50 yards apart from each other. One is a hot spring with a flow of about four cubic second feet per second (CFS), the other is a cold spring with a flow of about five CFS. The hot spring has a total dissolved solids (TDS) concentration of about 44,000 milligrams a liter (mg/L), and the cold spring has a TDS concentration of about 3,200 mg/L of TDS. The TDS of Salt Creek is about 20,000 mg/L at the discharge point. [1]

[1] Besides the flow from the springs, it is this permit writers opinion that Salt Creek is considered a "gaining stream" which means there is probably ground water entering the stream from non-point sources.

BIO-WEST MONITORING DATA

Bio-West monitored Salt Creek for temperatures during the months below. June's monitoring data was a cross section of the stream from the east side of the pond to the west side of the pond just above the just above the proposed discharge point. The monitoring results for August and October were taken at the compliance point (the railroad trestle) after the mixing zone.

Months	June*	August*	October*
Number of Samples	99 (pond)	4 (railroad trestle)	5 (railroad trestle)
Average Temperature	35.3° C (95.5° F)	27.7° C (81.9° C)	26.1° C (79.0° F)

*At the railroad trestle

STATE MONITORING DATA

Month	April
Number of samples at the RR trestle	2
Average Temperature	27.6° C (81.7° F)

Month	April
Number of samples of the pond, just above the proposed discharge point (east side and the west side of the pond)	2
Average Temperature	27.0° C (80.6° F)

Month	November
Number of samples at the RR trestle	3
Average Temperature	25.7° C (78.3° F)

BIO-WEST MONITORING DATA AND THE STATE DATA COMBINED

Months	April, August and October
Number of all samples of the pond, and RR trestle combined.	115
Average Temperature	28.7° C (83.7° F)

AVERAGE OF ALL SAMPLES AT THE RAILROAD TRESTLE (BIO-WEST & STATE)

Months	April, August, October and November
Number samples at the RR trestle combined.	8
Average Temperature	28.3° C (83.7° F)

DESCRIPTION OF FACILITY WASTEWATER DISCHARGE

The water from the wells will be pumped from existing ground water in the area. The water from the cold water well has a temperature of 58.19° F (14.55° C) and a TDS concentration of 960 mg/L. The water from the thermal well has a temperature of 122° F (49.94° C) and a TDS concentration of 41,000 mg/L. The only additive to the water prior to the discharge will be chlorine for disinfection purposes as mandated by the Utah Department of Health.

The discharge (outfall 001) is below the pools, to the west, at the end of a concrete serpentine/ditch, before it discharges directly into Salt Creek. Latitude N 41° 39' 23.5", longitude, W 115° 05' 20.5".

BASIS FOR EFFLUENT LIMITATIONS

The pH is based upon Utah Secondary Treatment Standards, according to *Utah Administrative Code (UAC) R317-1-3.2*.

The total chlorine residual (TCR) limitation is found under *UAC R317-2.14.2*., *Table 2.14.2, Numeric Criteria For Aquatic Wildlife*, which states the TRC cannot exceed 0.011 mg/L (see ADDENDUM) in order to meet State water quality standards in the receiving waters.

The temperature limitation is also found under *UAC R317-2.14.2*., *Table 2.14.2, Numeric Criteria For Aquatic Wildlife*, which states the temperature of the discharge cannot exceed 27° C (80.6° F), for waters of the State classified as 3B and 3D.

A dissolved oxygen (DO) effluent limit of 4.0 mg/L is based on professional judgment (BPJ) to meet State water quality standards at the compliance point below the discharge.

The limitations listed above indicate these parameters should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. Based on monitoring data in the past, CIC should not have any difficulty meeting the permit parameters indicated below.

SELF MONITORING AND REPORTING REQUIREMENTS

The following effluent self-monitoring requirements are based on the Utah Monitoring, Recording and Reporting Frequency Guideline, December 1, 1991. Reports shall be submitted monthly on DMR forms, and are due 28 days after the end of the previous monitoring period.

The point of compliance for outfall 001, is to the west, below the pools, at the end of the concrete serpentine/ditch, before it discharges into Salt Creek.

Parameters	Effluent Limitations, Outfall 001 a/			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
pH (Standard Units)	NA	NA	6.5	9.0
TRC, mg/L	NA	NA	NA	0.011
Temperature	NA	NA	NA	27.0° C (80.6 ° F)
Dissolved Oxygen, mg/L	NA	NA	4.0	NA

NA – Not Applicable

Self-Monitoring and Reporting Requirements, Outfall 001			
Parameter	Frequency	Sample Type	Units
pH	Monthly	Instantaneous	Standard Units
TRC	Monthly	Grab	mg/L
Temperature	Monthly	Instantaneous	Degrees C
Dissolved Oxygen	Monthly	Instantaneous	mg/L
Total Flow b/	Monthly	Recorder	MGD

a/ See Permit, Definitions, *Part I.A.* for definition of terms.

b/ The rate and duration of discharge shall be reported.

c/ There shall be no visible sheen or floating solids or visible foam in other than trace amounts.

d/ There shall be no discharge of sanitary wastes from outfall 001.

PRETREATMENT REQUIREMENTS

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

WHOLE EFFLUENT TOXICITY TESTING

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (biomonitoring), Division of Water Quality, March 1999*. Authority to require effluent biomonitoring is provided in Permit Conditions, *UAC R317-8-4.2*, Permit Provisions, *UAC R317-8-5.3* and Water Quality Standards, *UAC R317-2-5* and *R317-2-7.2*.

The permittee is a minor industrial discharger that will be contributing effluent to the existing stream flow, in which toxicity is not likely to be present as long as the effluent limitations are met for the monitoring parameters as previously mentioned. The source of the water being utilized for recreation purposes is from both warm and cold groundwater wells controlled by the permittee. Based upon these considerations and the permitting authority's BPJ, there is no reasonable potential for toxicity in the permittee's discharge *(per State of Utah's UPDES Permitting and Enforcement Guidance Document for WET Control).* As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit at anytime in the future should additional information indicate the presence of toxicity in the discharge.

STORM WATER REQUIREMENTS

With a Standard Industrial Classification code of 7999 (Amusement and Recreation Services), this permittee does not fall within the categories of industrial dischargers that are regulated under *UAC R317.8*. Therefore, there will be no storm water monitoring or reporting requirements for this permittee.

DURATION OF PERMIT

It is recommended this permit be issued for a five year duration, from the effective date.

This Fact Sheet/Statement of Basis and permit was drafted by Mark Schmitz, Environmental Scientist, Division of Water Quality, February 23, 2009.

Signature _____